Amendments to the Claims

1. (*Currently Amended*) A semiconductor device comprising:

[[-]] a gate electrode ~~(1)~~ and a gate insulating layer ~~(2)~~ produced on a part ~~(P1)~~ of the surface ~~(S)~~ of a substrate of a first semiconductor material ~~(100)~~ having a given melting point, and surrounded by an insulating spacer ~~(3; 30)~~ in a plane parallel to the surface of the substrate, the gate insulating layer ~~(2)~~ being disposed between the substrate ~~(100)~~ and the gate electrode ~~(1)~~, and

[[-]] a source region ~~(4)~~ and a drain region ~~(5)~~ situated under the surface of the substrate ~~(S)~~ at the level of two opposite sides of the gate electrode ~~(1)~~, respectively, each region containing electrical carriers of the same given type, with respective first concentrations, and each region comprising a portion of a second semiconductor material ~~(6, 7)~~ disposed on the substrate below the level of the gate insulating layer ~~(2)~~ in a direction ~~(D)~~ perpendicular to the surface ~~(S)~~ of the substrate, each portion of second material ~~(6, 7)~~ extending at least partially between the substrate ~~(100)~~ and the spacer ~~(3; 30)~~, substantially as far as a limit coming in line, in said perpendicular direction ~~(D)~~, with one side of the gate electrode ~~(C1, C2)~~, said portions of second material being doped with doping elements in order to create electrical carriers of said given type with second concentrations less than said first concentrations, and said portions of second material having a melting point lower than the melting point of the first material.

2. (*Original*) A device as claimed in Claim 1, in which said portions of second material have an ability to absorb a light radiation greater than the absorption ability of the first material for the same light radiation.

3. (*Original*) A device as claimed in Claim 1, in which the first material is based on silicon and the second material is based on germanium or based on an alloy of silicon and germanium.

4. (*Currently Amended*) A device as claimed in Claim 1, also comprising two encapsulation portions ~~(8, 9)~~ of said second material, disposed respectively over the portions of second material ~~(6, 7)~~, on a side opposite to the substrate ~~(100)~~.

5. (*Currently Amended*) A device as claimed in Claim 4, in which each encapsulation portion ~~(8, 9)~~ extends between the spacer ~~(3)~~ and the portion of second material ~~(6, 7)~~ above which said encapsulation portion is disposed, substantially as far as a limit situated in line, in said direction perpendicular to the surface of the substrate ~~(D)~~, with the side of the gate electrode ~~(C1, C2)~~ corresponding to said second encapsulation portion.

6. (*Currently Amended*) A device ~~as claimed in one of the preceding claims,~~ <u>as claimed in claim 1,</u> characterized in that said device is an MOS transistor.

7. (*Currently Amended*) A method of manufacturing a semiconductor device, comprising the following successive steps:

a) a gate insulating layer ~~(2)~~ is formed on a part ~~(P1)~~ of a surface ~~(S)~~ of a substrate ~~(100)~~ in a first semiconductor material having a given melting point;

b) a gate electrode ~~(1)~~ is formed on top of the gate insulating layer ~~(2)~~;

c) an insulating spacer ~~(3; 30)~~ is formed, disposed around the gate insulating layer ~~(2)~~ and the gate electrode ~~(1)~~, parallel to the surface of the substrate ~~(S)~~;

d) two surface films of the first material are removed respectively in two lateral parts of the surface of the substrate ~~(P2, P3)~~ situated on two opposite sides ~~(C1, C2)~~ of the surface part of the substrate ~~(P1)~~ carrying the gate insulating layer ~~(2)~~ and the gate electrode ~~(1)~~, each lateral part ~~(P2, P3)~~ extending between the substrate ~~(100)~~ and the spacer ~~(3; 30)~~ substantially as far as a limit coming in line with one of the opposite sides of the gate electrode ~~(C1, C2)~~, in a direction ~~(D)~~ perpendicular to the surface of the substrate ~~(S)~~;

e) a source region ~~(4)~~ and a drain region ~~(5)~~ are formed, each region being situated below the surface of the substrate ~~(S)~~ at a level of said two electrode parts of the surface of the substrate ~~(P2, P3)~~, respectively, each region containing electrical carriers of the same given type with respective first concentrations;

f) there is formed on the substrate ~~(100)~~, in each lateral part ~~(P2, P3)~~, a portion ~~(6, 7)~~ in a second semiconductor material substantially as far as a limit coming in line, in said perpendicular direction ~~(D)~~, with the opposite side of the gate electrode ~~(C1, C2)~~ corresponding to said lateral part, said portions of second material ~~(6, 7)~~ containing doping elements in order to create electrical carriers of the given type, and having a melting point lower than the melting point of the first material;

g) the portions of second material ~~(6, 7)~~ are heated to a temperature intermediate between the respective melting points of the first and second materials, so that the portions of second material contain electrical carriers with second concentrations lower than said first concentrations.

8. (*Currently Amended*) A method as claimed in Claim 7, according to which, during step g), said portions of second material ~~(6, 7)~~ are heated using a laser beam.

9. (*Currently Amended*) A method as claimed in Claim 7, according to which, after step f), encapsulation portions ~~(8, 9)~~ are deposited respectively on top of said portions of second material ~~(6, 7)~~, on a side opposite to the substrate ~~(100)~~.

10. (*Original*) A method as claimed in Claim 7, according to which step e) is performed before step d).